PATENT CLAIMS

1. A method for detecting identification media (IM) within the communication range (K-B) of an antenna (At) for transmitting and receiving RF signals of a read/write unit (WR) which operates in accordance with the principle of inductive coupling of an RF field in the MHz frequency band and which has a transmitting path (HFo) connected directly to the antenna,
a receiving path (Dem) connected directly to the antenna,
a circuit (S(HF)) for RF communication with a standard transmitting power (P-HF) or less, and a logical circuit (Pr) for evaluating a communication between the read/write unit (WR) and an identification medium (IM), characterized in that
a short polling signal (ASo), which contains a number of fundamental oscillations of the RF field, is periodically emitted with the standard transmitting power (P-HF) via the transmitting path (HFo) and the antenna (At) (1),
that during the emission of the polling signal (ASo), a return signal (ASi) with a number of fundamental oscillations of the RF field is detected at the antenna (At) (2),
then the return signal (ASi) is compared with a reference signal (RS) (3),
and then a communication signal (KS) is emitted for detecting an identification medium (IM) (4) if the return signal (ASi) differs from the reference signal (RS) (3-2).

2. A method according to claim 1, characterized in that the polling signal (ASo) is shorter by at least two orders of magnitude than the communication signal (KS).

3. A method according to claim 1, characterized in that the detection (2) of the return signal (ASi) is effected via the receiving path (Dem).

4. A method according to claim 1, characterized in that the detection (2) of the return signal (ASi) is effected via a separate detection path (Det).

5. A method according to claim 1, characterized in that the comparison (3) of return signal (ASi) and reference signal (RS) is effected by the logical circuit (Pr).

6. A method according to claim 1, characterized in that the comparison (3) of return signal (ASi) and reference signal (RS) is effected in a separate logical circuit (Pr(AS)).

7. A method according to claim 1, characterized in that the comparison (3) of return signal (ASi) and reference signal (RS) is effected by means of a separate discrete circuit (dS(AS)).

8. A method according to claim 1, characterized in that the return signal (ASi(p)) of the current measuring period (p) is used as reference signal (RS(p + 1)) for the next measuring period (p + 1) (6).

9. A method according to claim 1, characterized in that the reference signal (RS) is changed over time in accordance with a stored reference signal profile (RSP(t)) (6).

10. A method according to claim 1, characterized in that the reference signal (RS(t)) is self-adapting over time (6).

11. A method according to claim 1, characterized in that the amplitudes (A) of return signal (ASi) and reference signal (RS) are compared (3).

12. A method according to claim 1, characterized in that the pulse widths (L) of return signal (ASi) and reference signal (RS) are compared (3).

13. A method according to claim 1, characterized in that the emission (4) of a communication signal (KS) takes place if the return signal (ASi) is below the reference signal (RS) by a defined threshold value (X) (3-2): $ASi < RS - X$.

14. A method according to claim 1, characterized in that the comparison (3) of return signal (ASi) and reference signal (RS) is effected by analog means via a comparator (Co) of a discrete circuit (dS(AS)).

15. A method according to claim 1, characterized in that the comparison (3) of return signal (ASi) and reference signal (RS), after an A/D conversion, is effected by digital means by the logical circuit (Pr) or by a separate logical circuit (Pr(AS)).

16. A method according to claim 13, characterized in that the threshold value (X) is defined by a comparator (Co) or its drive system.

17. A method according to claim 1, characterized in that there is a defined time delay (dt) between the beginning of the emission (1) of a polling signal (ASo) and the detection (2) of the return signal (ASi).

18. A method according to claim 1, characterized in that the return signal (ASi) contains at least 10 fundamental oscillations of the RF field.

19. A method according to claim 1, characterized in that the logical circuit (Pr) is set from an idle mode (Is) into an operating mode (Ib) before transmitting the polling signal (ASo).

20. A method according to claim 1, characterized in that the communication signal (KS) is emitted with a transmitting power (P-HFr) reduced by at least a factor of 2.

21. A method according to claim 1, characterized in that the read/write unit (WR) adaptively determines in a self-learning manner whether the communication signal (KS) is emitted with standard transmitting power (P-HF) or with reduced transmitting power (P-HFr).

22. A read/write unit for detecting identification media (IM) within the communication range (K-B) of an antenna (At) for transmitting and receiving RF signals of the read/write unit (WR) which operates in accordance with the principle of inductive coupling of an RF field in the MHz frequency band and which has a transmitting path (HFo) connected directly to the antenna,
a receiving path (Dem) connected directly to the antenna,

a circuit (S(HF)) for RF communication with a standard transmitting power (P-HF) or less, and a logical circuit (Pr) for evaluating a communication between the read/write unit (WR) and an identification medium (IM), characterized in that

a short polling signal (ASo), which contains a number of fundamental oscillations of the RF field, can be periodically emitted with the standard transmitting power (P-HF) via the transmitting path (HFo) and the antenna (At) (1),

and during the emission of the polling signal (ASo), a return signal (ASi) with a number of fundamental oscillations of the RF field can be detected at the antenna (At) (2),

then the return signal (ASi) can be compared with a reference signal (RS) (3),

and then a communication signal (KS) can be emitted for detecting an identification medium (IM) (4) if the return signal (ASi) differs from the reference signal (RS) (3-2).